

relative humidity of 61%. The plywood deck temperature was measured at 120° F.

The polyurethane formulation of example 1 was applied in beads at a coverage rate of 3 squares per gallon. The beads initiated foaming in 3 minutes, at which time, 1 inch fibreboard in 4'x4' squares were seated into the foaming beads on the plywood deck.

Within 30 minutes an exposed, foamed bead would lose wettability to the touch, but continued to wet out the fibreboard as it was kicked into place. After 1 hour the fibreboard panels were securely bonded to the roof deck.

On the second roof deck (of the same construction as the first roof) an asphaltic cap sheet was cracking and showed signs of significant wear. The air temperature had risen to 75° F. with a relative humidity of 65%. The cap sheet temperature was 140° F. Six foot wide sheets of fleeced back EPDM were positioned on the roof.

The polyurethane formulation of Example 3 was applied in beads at a coverage rate of 2½ squares per gallon for two lengths of the roof. On the third length the polyurethane formulation of example 3 was applied by squeegee at a coverage rate of 2 squares per gallon.

The fleece backed EPDM was rolled into the adhesive coated cap sheet and broomed into place. The next morning the fleece backed EPDM was securely bonded to the cap sheet. Attempts to peel the EPDM from the cap sheet resulted in cap sheet failure.

We claim:

1. A method of adhering roofing material to a roof deck, comprising;

A. applying a one-part, moisture curable, foaming, polyurethane adhesive composition, consisting essentially of;

i. an isocyanate terminated prepolymer prepared from at least one organic polyisocyanate and at least one composition containing at least two isocyanate reactive moieties, and

ii. a reversibly blocked catalyst, consisting essentially of; the addition product of a sulfonyl isocyanate and a tertiary amine and/or a tin (II) or tin (IV) carboxylate composition; to a roof deck;

B. positioning the roofing material on the deck with sufficient pressure to seat the roofing material in the polyurethane adhesive composition; and

C. allowing the polyurethane composition to foam, fill and cure.

2. The method of adhering roofing material as claimed in claim 1, where prior to applying the polyurethane adhesive composition to the roof deck, the roof deck is misted with water.

3. The method of adhering roofing material as claimed in claim 1, where prior to applying the polyurethane adhesive composition to the roof deck, the roof deck is misted with an acidic, aqueous solution.

4. The method of adhering roofing material as claimed in claim 1, where the organic polyisocyanate is diphenylmethane diisocyanate.

5. The method of adhering roofing material as claimed in claim 1, where the composition containing at least two isocyanate reactive moieties is a polyether polyol free of nitrogen.

6. The method of adhering roofing material as claimed in claim 1, where the reversibly blocked catalyst is the reaction product of a sulfonyl isocyanate, a tertiary amine, and a tin(II) or tin(IV) carboxylate composition.

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